

USSR

UDC 612.563.014.482

TARATUKHIN, V. R., RAPPOPORT, I. A., and LEMESH, G. A.

"Changes in the Skin Temperature Under the Effect of Ionizing Radiation"

Moscow, Meditsinskaya Radiologiya, Vol 18, No 8, Aug 73, pp 61-63

Abstract: Changes in the skin temperature of rats were studied after general irradiation of the animals with x-rays in doses of 50 and 100 r and local irradiation of the back freed of fur with beta-rays from ^{85}Kr in doses of 2.5 and 7.4 krad. In every instance the temperature increased on the 3d day after irradiation. This increase was statistically reliable except on irradiation with beta-rays in a dose of 2.5 krad. On irradiation with x-rays in a dose of 100 r, the skin temperature increased steadily, reaching a maximum on the 14th day after irradiation. After this there was a tendency towards a temperature decrease on the 21st day, which was followed by a return of the temperature to normal on the 28th day. On irradiation with x-rays in a dose of 50 r, the temperature was below normal on the seventh day, returning to normal on the 14th day and then decreasing to a minimum on the 21st day and returning to normal again on the 28th. Irradiation with beta-rays in a dose of 7.4 krad

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USSR

TARATUKHIN, V. R., et al., Meditsinskaya Radiologiya, Vol 18, No 8, Aug 73,
pp 61-63

resulted in temperatures above normal from the third to 28th day. On irradiation with beta-rays in a dose of 2.5 krad, the temperature remained above normal until the 21st day, changing in a wave-like fashion, and then dropped from normal on the 21st day to below normal between the 21st and 28th day.

2/2

- 100 -

Microbiology

USSR

UDC 575.111:575.24:576.858

FROLOVA, M. M., ZASUKHINA, G. D., and RAPOPORT, I. A., Institute of Poliomyelitis and Viral Encephalitis, Academy of Sciences USSR, and Institute of Chemical Physics, Academy of Sciences USSR, Moscow

"Variability of Chikungunya Virus. II. Characteristics of Induced Mutagenesis in Plaque Mutants of Chikungunya Virus"

Moscow, Genetika, No 9, 1971, pp 169-174

Abstract: Plaque mutants of Chikungunya virus differed in sensitivity to the inactivating effect of the mutagens ethyleneimine and chloroethyleneimine. For example, the small-plaque mutant was 10 times more resistant than the large-plaque mutant. The yield of variants differing in virulence for mice varied with the dose of the particular alkylating agent used. High concentrations of ethyleneimine produced the maximum number of mutants pathogenic for mice, but low concentrations of chloroethyleneimine were required for the same effect. Neither agent induced mutations affecting the size of the plaques.

1/1

Oncology

USSR

UDC 616-006.6-092-07:616-008.931

RAPOPORT, I. A., PARNES, V. A., and LEVINA, D. M., Division of Chemical Genetics, Institute of Chemical Physics, Academy of Sciences USSR, and Laboratory of Oncogenic Viruses, Institute of Experimental and Clinical Oncology, Moscow

"Enzymatic Control of the Plasticity of the Organism and Carcinogenesis"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, Vol 14, No 5, Sep/Oct 70, pp 56-61

Abstract: Most spontaneous and induced tumors are thought to be produced by enzymatic modifications which produce cell transformations. Daughter cells may differ from their parent cells as a result of shifts in chromosomes, or for other reasons such as the effects of chemical carcinogens or shortwave radiation. Apparent "heredity" is created for many generations of malignant cells, since the controlling enzymatic modification involves the key enzyme regulating cellular reproduction. The absence of this enzyme does not lead to the death of the cell but rather to a steady disturbance in cellular multiplication and to interference with other interrelated processes of cellular life activity. The entire set of pathological properties creating the malignancy is thus upon cell division, transmitted to the corresponding daughter cells.

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Oncology

USSR

UDC 575.24

RAPOPORT, I. A., Doctor of Biological Sciences, and FILIPPOVA, L. M.,
Candidate of Biological Sciences

"Chemical Mutagens and Antimutagens and Their Significance for the Gene
Pool and Carcinogenesis"

Moscow, Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva im. D. I. Mendeleyeva,
No 6, 1970, pp 681-689

Abstract: Research on the genetic danger posed by chemicals widely used in industry, agriculture, and daily life is summarized. The results of studies on the capacity of various drugs, polymers, dyes, and so forth to induce point mutations and chromosome aberrations are presented. The part played by chemical mutagens in worsening the gene pool of mankind and in giving rise to malignant tumors is also discussed. The problem of developing antimutagens is a formidable one, because with the current state of knowledge such agents might also have a mutagenic effect and constitute a similar danger in another form.

1/1

USSR

UDC 576.312.3

SAKHAROVA, M. N., RAPOPORT, I. A., BEKHAZAR'YANTS, M. M., and NIKOFOROV, Yu. L.,
Institute of Chemical Physics, Academy of Sciences USSR

"Puffs Induced by Thiocyanate and the Puff Model For Determining Drug Injury
to Enzymes"

Moscow, Doklady Akademii Nauk SSSR, Vol 196, No 5, 1971, pp 1,217-1,220

Abstract: The modification of *Drosophila* chromosome puffs induced by sodium thiocyanate added to the nutrient medium in a concentration of $2 \times 10^{-4} M$ was investigated. As a result of incorporation of this compound, the number of puffs increased from 26 (control) to 28 in X-chromosomes; from 17 to 24 in 2L-chromosomes; from 21 to 23 in 2R-chromosomes; from 24 to 28 in 3L-chromosomes; and from 22 to 28 in 3R-chromosomes. Significant changes were also observed in the morphology of other puffs and in the activity of chromosome enzymes. This method appears to be very useful in the study of the biological effects of drugs on pathogens and on the host.

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1/2 011
TITLE--CAUSES OF CORRELATION BETWEEN CARCINOGENIC AND MUTAGENIC ACITVITY
-U-
AUTHOR--(03)--RAPOPORT, I.A., PARNES, V.A., LEVINA, D.M.
COUNTRY OF INFO--USSR
SOURCE--PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTAL'NAYA TERAPIYA, 1970,
VOL 14, NR 2, PP 23-28
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--TUMOR, CARCINOGEN, MUTAGEN, CELL PHYSIOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/0058
CIRC ACCESSION NO--AP0105156
STEP NO--UR/0396/70/014/002/0023/0028
UNCLASSIFIED

2/2 011
CIRC ACCESSION NO--AP0105156 UNCLASSIFIED
ABSTRACT/EXTRACT--(U) GP-0- PROCESSING DATE--16OCT70
ABSTRACT. ACCEPTANCE OF MUTATION MECHANISM
OF TUMOR TRANSFORMATION IS NOT INFREQUENTLY BASED ON CORRELATION BETWEEN
THE MUTAGENIC AND CARCINOGENIC EFFECTS. IN STUDYING THE CAUSES OF
COINCIDENCE OF THE MUTATION AND CARCINOGENIC ACTIVITY IT WAS OF
IMPORTANCE TO FIND OUT WHETHER THE COMPOUNDS BEARERS OF THIS CORRELATION
POSSESSED SOME PROPERTY RESPONSIBLE FOR MANIFESTATION OF BOTH EFFECTS,
OR NOT. ANALYSIS OF CONDITIONS DETERMINING THE EFFECTUATION OF
MUTAGENIC AND CARCINOGENIC ACTION DEMONSTRATED THE PERMEABILITY FACTOR
TO BE THE MOST ESSENTIAL. ABOUT THE SAME DEPTH OF PENETRATION OF THE
ACTIVE AGENT INTO THE CELLS IS REQUIRED FOR MUTAGENESIS AND
CARCINOGENESIS. MUTAGENS POSSESSING A HIGH PENETRATION GRADIENT CAN
ALSO, THEREFORE, BE CARCINOGENIC, BUT THE POINT OF APPLICATION OF THESE
EFFECTS, APPARENTLY DIFFER. CORRELATION BETWEEN THE CARCINOGENIC AND
CARCINOLYTIC ACTIVITY OF A SUBSTANCE IS ALSO CAUSED BY COINCIDENCE OF
THE OPTIMAL PENETRATION GRADIENTS. FACILITY: OTDEL KHIMICHESKUY
GENETIKI INSTITUTA KHIMICHESKOF FIZIKI AN SSSR. FACILITY:
LABORATORIYA ONKOGENNYKH VIRUSOV INSTITUTA EKSPERIMENTALINUY I
KLINICHESKOF ONKOLOGII AMN SSSR, MOSKVA.

UNCLASSIFIED

Microbiology

USSR

UDC 575.24: 636.1

SOLYANIK, R. G., FEDOROV, Yu. V., and ~~RAPOPORT, I. A.~~ Toms'k Scientific Research Institute of Vaccines and Sera, Institute of Chemical Physics, Academy of Sciences USSR, Moscow

"Genetic Characteristics of Eastern Equine Encephalomyelitis Virus Mutants Induced by Alkylating Compounds"

Moscow, Genetika, Vol 8, No 5, 1972, pp 109-114

Abstract: Characteristics of attenuated mutants obtained from treating the pathogenic strain with alkylating compounds are described. Mutants were tested for degree of uniformity in regard to size of negative colonies and pathogenesis for white mice. Mutants induced with dimethylsulfate were uniform in both respects, while those induced with N-nitrosomethylurea and formaldehyde showed molecules of varied size, and of varying degrees of virulence. Through additional selection, subclones with desirable uniform characteristics were obtained. The pathogenicity of a virus variant for sensitive animals is an extremely important genetic characteristic, and this experiment showed that it is possible to obtain an Eastern equine encephalomyelitis virus mutant with decreased peripheral activity, apathogenic for susceptible animals. Correlation was noted between capacity to cause viremia and the pathogenicity of the

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USSR

SOLYANIK, R. G., et al., Genetika, Vol 8, No 5, 1972, pp 109-114

virus upon peripheral methods of infection, as the pathogenic variant was detected in the blood sooner and for a longer time in titers much higher than those of the attenuated variant. No strong correlation between virulence and thermoresistance was found. There were thermolabile and thermostable attenuated variants. Most of the variants of lowered virulence for the animals remained immunogenic, showing a pronounced resistance index and general stability.

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USSR

ZOZ, N. N., and RAPOPORT, I. A. (Editors)

Teoriya Khimicheskogo mutageneza (Theory of Chemical Mutagenesis), Moscow, "Nauka," 1971

Translation: Preface: Interest in the theoretical problems of chemical mutagenesis has increased significantly in recent years in connection with the intensive use of this method in selection and with the discovery of a number of interesting and new phenomena in experimental mutagenesis.

The collection reflects the present status of the basic problems of chemical mutagenesis: the mechanism of action of mutagens, specificity of mutagenesis, the role of the genotype in experimental mutagenesis, etc.

Among the most effective known mutagens in frequency of hereditary changes and spectrum, the most important is to N-nitrosoalkylurea. For this reason a great number of studies are devoted to investigation of the characteristics of this group of mutagens.

In recent years geneticists and selection specialists have been interested in minor mutations of a quantitative character, chlorophyll, physiological,
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USSR

ZOZ, N. N., and RAPOPORT, I. A., Teoriya Khimicheskogo mutageneza (Theory of Chemical Mutagenesis), Moscow, "Nauka," 1971

and biochemical mutations. Special articles in this collection are devoted to these mutations.

Works dealing with the nature of induced mutations are of great interest.

The collection includes articles summarizing theoretical and practical questions in experimental mutagenesis, which present the most interesting problems of mutagenesis on the most important agricultural plants and show the practical achievements of utilizing mutagenetic factors in breeding.

The collection includes materials of the fourth All Union Conference on Chemical Mutagenesis which took place at the Order-of-Lenin-Institute of Chemical Physics of the USSR Academy of Sciences in March 1969.

Translation: Annotation: This collection is devoted to questions about the mechanism of the action of chemical mutagens on molecular and cellular levels, the mechanism of the genesis of mutagens, work methodology, cytogenetic study of mutagens, the development of the most effective methods of influencing mutagens in relation to a substance.

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ZOZ, N. N., and RAPOPORT, I. A., Teoriya Khimicheskogo mutageneza (Theory of Chemical Mutagenesis), Moscow, "Nauka," 1971

The book is of interest to geneticists, breeders and biologists working in the field of experimental mutagenesis, as well as to teachers and students of the biological faculties of agricultural vuzes.

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CSO: 1840-W

- END -

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USSR

UDC 575.111:575.24:576.851.48

FILIPPOVA, L. M., LIKHODED, V. G., and RAPOPORT, I. A., Institute of Chemical Physics, Academy of Sciences USSR, and Scientific Research Institute of Vaccines and Sera imeni I. N. Mechnikov, Ministry of Health USSR, Moscow

"The Effects of N-Nitroso-N-Methylurea on Escherichia Coli Strains Differing in Their Capacity for Excision Repair of DNA Lesions"

Moscow, Genetika, Vol 7, No 11, 1971, pp 130-135

Abstract: Mutagenic and lethal effects were produced in her^+ and her^- E. coli K-12 strains by using different amounts of N-nitroso-N-methylurea (NMU). Almost identical results were obtained on her^+ and her^- strains. Strains were unable to repair the damaged chromosomes through excisions, and synthesized neither colicin E1 nor gamma prophages in any significant amounts. Since NMU, like all monoalkylating agents, exerts its effects by alkylating purine bases in DNA, it is suggested that the difference in the mechanism of action of monoalkylating and dialkylating agents may be responsible for the inactivation of the bacteria.

USSR

UDC 575.24:576.858

SOLYANIK, R. G., FEDOROV, Yu. V., and RAPOPORT, I. A., Tomsk Scientific Research Institute of Vaccines and Sera, Tomsk, and Institute of Chemical Physics, Academy of Sciences USSR, Moscow

"The Mutagenic Effect of Some Alkylating Compounds on the Virus of Eastern Equine Encephalomyelitis"

Moscow, Genetika, Vol 8, No 3, Mar 72, pp 164-165

Abstract: The mutagenic effect of N-nitrosomethylurea, formaldehyde, 1,4-bis-diazoacetylbutane, and dimethylsulfate on the virus of eastern equine encephalomyelitis was studied, using strain 2627 of this virus obtained from the Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR. The cultures of chicken embryo cells were prepared by trypsinization. The virus clones were isolated by the platelet method. The intracellular virus was treated with the mutagens at the moment of its replication. The size of negative colony platelets and the pathogenicity of the virus upon intraperitoneal injection of mice were used as criteria of the mutagenic effect. A change in the size of platelets was observed only upon treatment with formaldehyde or dimethylsulfate. The mutants isolated upon treatment of the virus with dimethylsulfate showed a less pronounced residual pathogenicity (the titer of the

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USSR

SOLYANIK, R. G., et al, Genetika, Vol 8, No 3, Mar 72, pp 164-165

majority of them was < 1.0) than those obtained on treatment with N-nitroso-methylurea or formaldehyde (titer 1.5-2.0) - i.e., dimethylsulfate had a stronger mutagenic effect as far as pathogenicity was concerned. No mutations were obtained upon subjecting the virus to the action of 1, 4-bis-diazoacetylbutane.

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UDC 612.79.014.482.3

MIRTOV, A. V., RAPPOPORT, I. A., and TARATUKHIN, V. R., Leningrad

"Effect of Soft Beta Radiation on the Sorption Properties of the Skin"

Moscow, Meditsinskaya Radiologiya, No 3, 1972, pp 64-66

Abstract: Rats were exposed to soft Xe^{133} beta radiation at 6.0, 9.4, and 14.7 rad and at various times thereafter injected intravenously with neutral red. One hour later, when sorption of the dye in the skin was greatest, the animals were decapitated and specimens were taken from irradiated areas to determine the amount of dye in 1 g of tissue for comparison with the controls. The results failed to show any significant difference between the experimental and control animals with respect to the amount of dye in the specimens, suggesting that soft Xe^{133} beta radiation at the doses used does not injure skin tissue. None of the irradiated animals developed visible skin lesions.

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UNCLASSIFIED
TITLE--EFFECTIVE CROSS SECTIONS OF INELASTIC PROTON INTERACTION WITH
CARBON AND HYDROGEN NUCLEI IN THE 20-600 GEV REGION MEASURED AT THE
AUTHOR--(05)-SAVENKO, I.A., GRIGOROV, N.L., NESTEROV, V.YE., RAPOPORT,
I.D., SURIDIN, G.A.
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SOURCE--YAD. FIZ. 1970, 11(4), 814-29
DATE PUBLISHED-----70
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TOPIC TAGS--PROTON INTERACTION, CARBON, HYDROGEN, NUCLEUS, INELASTIC
INTERACTION/(U)PROTON 3 SCIENTIFIC SATELLITE, (U)PROTON 2 UNMANNED
LABORATORY, (U)PROTON 1 UNMANNED LABORATORY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
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UNCLASSIFIED

ACCESSION NO--AP0136498 UNCLASSIFIED
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CROSS SECTIONS SIGMA SUBPC AND
SIGMA SUBPP AT THE EFFECTIVE P ENERGIES 20-600 GEV WERE MEASURED BY
USING EHA APP. PLACED ON THE SPACE STATIONS (ORBITING SATELLITES) PROTON
MINUS 1, MINUS 2, AND MINUS 3. WITH THE RISE OF THE RHO ENERGY THE
CROSS SECTION SIGMA SUBPC INCREASED BY 120 PLUS OR MINUS 51 PERCENT. THE
CROSS SECTION SIGMA SUBPP WAS DETD. BY THE DIFFERENCE METHOD
(POLYETHYLENE-C) WITH ERRORS 8-20 PERCENT. THE MEASURED DEPENDENCE OF
SIGMA SUBPP ON THE ENERGY DOES NOT CONTRADICT THE OBSD. INCREASE OF THE
CROSS SECTION SIGMA SUBPC IN THE SAME ENERGY RANGE. VARIOUS METHODIC
EFFECTS AND TRIVIAL PHYS. PROCESSES WHICH COULD AFFECT THE VALUES OF
MEASURED CROSS SECTIONS WERE ANALYZED. THE OBSD. INCREASE OF THE CROSS
SECTIONS CANNOT BE EXPLAINED BY THESE EFFECTS.
YAD. FIZ., MOSK. GOS. UNIV., MOSCOW, USSR. FACILITY: INST.

PROCESSING DATE--27NOV70

UNCLASSIFIED

UNCLASSIFIED
TITLE--MEASUREMENTS OF THE PRIMARY COSMIC RAY SPECTRA IN THE 10 TO THE
10TH POWER TIMES 10 TO THE 14TH POWER EV ENERGY RANGE FROM PROTON 1, 2,
AUTHOR--(05)--AKIMOV, V.V., GRIGOROV, N.L., NESTEROV, V.E., RAPOPORT, I.D.,
SAVENKO, I.A.
COUNTRY OF INFO--USSR, HUNGARY
PROCESSING DATE--11DEC70
SOURCE--INTERNATIONAL CONFERENCE ON COSMIC RAYS, 11TH, BUDAPEST, HUNGARY,
AUGUST 25-SEPTEMBER 4, 1969, PROCEEDINGS, VOLUME 1 ORIGIN AND GALACTIC
DATE PUBLISHED--70
SUBJECT AREAS--ATMOSPHERIC SCIENCES, SPACE TECHNOLOGY
TOPIC TAGS--PRIMARY COSMIC RAY, PROTON SPECTRUM/(U)PROTON 3 SCIENTIFIC
SATELLITE, (U)PROTON 2 UNMANNED LABORATORY, (U)PROTON 1 UNMANNED
LABORATORY
CENTRAL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO--FD70/605060/F08 STEP NO--HJ/2506/70/029/000/0517/0520
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PROCESSING DATE--11DEC70

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2/2 030

CIRC ACCESSION NO--AT0144422
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. DESCRIPTION OF THE RESULTS OF MEASUREMENTS OF THE SPECTRUM OF THE PRIMARY COSMIC RAY PROTONS ON THE ENERGY RANGING FROM 10 TO THE 10TH POWER TO 10 TO THE 13TH POWER EV AND THE SPECTRUM OF ALL PARTICLES OF THE PRIMARY COSMIC RAYS RANGING FROM 10 TO THE 11TH POWER TO 10 TO THE 14TH POWER EV CARRIED OUT ON PROTON 1, 2, AND 3 SATELLITES. THE APPROXIMATING FUNCTION WHICH DESCRIBED THE PROTON SPECTRUM IS PRESENTED. IT IS SHOWN THAT THE SPECTRUM OF ALL PARTICLES CAN BE REPRESENTED BY SUPERPOSING THE OBTAINED PROTON SPECTRUM AND POWER SPECTRUM OF PARTICLES WITH CHARGES OF ABOVE OR EQUAL TO 2.2.W.

FACILITY: MOSKOVSKII GOSUDARSTVENNYI UNIVERSITET, MOSCOW, USSR.

UNCLASSIFIED

UDC: 62-567.1

USSR

ABGARYAN, K. A., RAPOPORT, I. M., MAL'TSEV, O. P., SAMOYLOV, Ye. A.,
RYBAK, S. A., Moscow "Order of Lenin" Aviation Institute imeni Sergo Ordzhonikidze

"A Dynamic Vibration Damper"

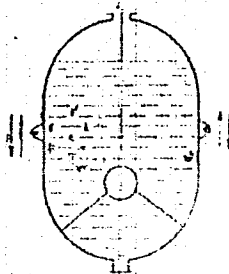
Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztzy, Tovarnyye Znaki,
No 5, Feb 72, Author's Certificate No 364781, Division F, filed 17 Mar 71,
published 28 Dec 72, pp 108-109

Translation: This Author's Certificate introduces a dynamic vibration damper which contains an additional mass coupled to an elastic element. As a distinguishing feature of the patent, provision is made for using the damper in liquid-filled elastic tanks. The elastic element is made in the form of a gas-filled elastic shell located inside the liquid, and the surrounding liquid comprises the additional mass.

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USSR

ABGARYAN, K. A. et al., USSR Author's Certificate No 364781



2/2

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1/2 021 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--THREE DIMENSIONAL PROBLEM IN ELASTICITY THEORY FOR A REGION BETWEEN
TWO PARALLEL PLANES -U-
AUTHOR--RAPOPORT, I.M. *R*
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, DOKLADY AKADEMII NAUK SSSR, VOL 191, NO 4, 1970, PP
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DATE PUBLISHED-----70

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TOPIC TAGS--ELASTICITY, METAL DEFORMATION, FLAT PLATE

CONTROL MARKING--NO RESTRICTIONS

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PROXY REEL/FRA--1996/1624

STEP NO--UR/0020/70/191/004/0787/0790

CIRC ACCESSION NO--AT0118604

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 021

CIRC ACCESSION NO--AT0118604

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS ARTICLE IS A SEQUEL TO ONE WRITTEN BY ANOTHER AUTHOR (V. Z. VLASOV, IZV. AN SSSR, OTN, NO. 7 (1955)) CONSIDERING THE PROBLEM OF THE EQUILIBRIUM OF AN ELASTIC BODY LIMITED BY TWO PARALLEL PLATES AND UNDER THE ACTION OF SURFACE FORCES AT THE SURFACE EDGES. THE EARLIER PAPER REDUCED THE PROBLEM OF THE SOLUTION OF A SYSTEM OF DIFFERENTIAL EQUATIONS OF INFINITE ORDER. THE PRESENT PAPER CONSIDERS THE MORE GENERAL PROBLEM IN WHICH ARBITRARY VOLUME FORCES OPERATE ALONG WITH THE SURFACE FORCES, AND FINDS AN EXPLICIT SOLUTION FOR THE PROBLEM IN THE FORM OF SERIES. THE STRUCTURE OF THESE SERIES IS BASED ON THE EXPANSIONS OF A NON SELF CONJUGATE DIFFERENTIAL OPERATOR IN TERMS OF EIGEN FUNCTIONS. THE AUTHOR CONCLUDES THAT HIS SOLUTION OF THIS PROBLEM MAKES POSSIBLE THE CORRECT COMPUTATION OF LOCAL DEFORMATIONS IN ELASTIC PLATES, AND THAT THE EXPANSION IN TERMS OF THE EIGEN FUNCTIONS CAN ALSO BE USED FOR IMPROVING THE ACCURACY OF COMPUTATION OF EDGE EFFECT IN AN ELASTIC PLATE OF SPECIFIED CONFIGURATION.

UNCLASSIFIED

USSR

UDC 576.8.097.22:615.33

RAPOPORT, L. G., Dushanbe Institute of Epidemiology and Hygiene

"An Increase in the Frequency of Transmission of Antibiotic Resistance in Bacteria During Agglutination"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 11, 1971, pp 27-31

Abstract: In an attempt to increase the frequency of transmission of resistance to antibiotics, seven *Shigella flexneri* strains sensitive to phages A and N but resistant to streptomycin, tetracycline, and levomycetin were incubated with three *Shigella* strains resistant to the phages but sensitive to the antibiotics in a) a liquid medium and b) after agglutination with Flexner's serum. Samples of these cultures were then transferred onto agar containing the phages (to destroy the donors) and the antibiotics (to destroy non-resistant recipients). The growth patterns revealed that the frequency of transmission of antibiotic resistance is much higher in the agglutinated state than in liquid suspension. It is inferred that agglutination facilitates conjugation.

1/1

1/2 020
UNCLASSIFIED
PROCESSING DATE--20NOV70
TITLE--A DEVICE FOR SIMULATING PULSED INTERFERENCE -U-
AUTHOR--(05)-RAPPORT, L.I., KHVOSTENKO, A.I., KULAKOV, N.N., SHAPOSHNIK,
V.I., KIRICHEK, V.A.
COUNTRY OF INFO--USSR
SOURCE--PATENT NO 260291, FILED 4 NOV 68
REFERENCE--MOSCOW, OTKRYTIYA, IZOBRETENIYA, PROMYSHLENNIYE OBRAZTSY,
DATE PUBLISHED-----70
SUBJECT AREAS--METHODS AND EQUIPMENT, ELECTRONICS AND ELECTRICAL ENGR.
TOPIC TAGS--PATENT, PULSE EXCITATION, PULSE GENERATOR, PULSE INTEGRATOR,
PULSE SIGNAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0735
STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0126443
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0126443

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS AUTHOR'S CERTIFICATE INTRODUCES A DEVICE FOR SIMULATING PULSED INTERFERENCE. THE UNIT CONTAINS THE EQUIPMENT TO BE STUDIED, A POWER SUPPLY, CONTROL PULSE GENERATOR, AND SHUNTING DEVICE. AS A DISTINGUISHING FEATURE OF THE PATENT, THE DEVICE IS DESIGNED FOR PRODUCING INTERFERENCE WITH CONTROLLABLE POLARITY, AMPLITUDE, DURATION, AND PRF AND ALSO FOR ELIMINATING THE MUTUAL EFFECT OF THE INTERFERENCE SIMULATOR AND THE EQUIPMENT TO BE STUDIED. AN AUXILIARY DC POWER SUPPLY WITH CONTROLLABLE POLARITY AND AMPLITUDE OF THE OUTPUT VOLTAGE IS CONNECTED IN PARALLEL BOTH WITH THE EQUIPMENT TO BE STUDIED AND WITH ITS POWER SUPPLY BY MEANS OF A COMMUTATOR. THE OUTPUTS OF THE CONTROL PULSE GENERATOR ARE CONNECTED TO THE COMMUTATOR AND SHUNTING DEVICE, WHICH IS CONNECTED TO THE COMMUTATOR AND TO THE AUXILIARY POWER SUPPLY. FACILITY: DONETSKIY NAUCHNO-ISSLEDOVATEL'SKIY I PROYEKTNO-KONSTRUKTORSKIY INSTITUT AVTOMATIZATSII GORNYKH MASHIN.

UNCLASSIFIED

USSR

UDC 681.333

~~RAPPOBORT~~, L. I., KHVOSTENKO, A. I., KULAKOV, N. N., SHAPOSHNIK, V. I.,
KIRICHEK, V. A., Donetsk Scientific Research Institute for the Planning
and Design of Mining Machine Automation

"A Device for Simulating Pulsed Interference"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrazttsy, Tovarnyye
Znaki, No 3, 1970, p 130, patent No 260291, filed 4 Nov 68

Abstract: This Author's Certificate introduces a device for simulating pulsed interference. The unit contains the equipment to be studied, a power supply, control pulse generator, and shunting device. As a distinguishing feature of the patent, the device is designed for producing interference with controllable polarity, amplitude, duration, and prf and also for eliminating the mutual effect of the interference simulator and the equipment to be studied. An auxiliary DC power supply with controllable polarity and amplitude of the output voltage is connected in parallel both with the equipment to be studied and with its power supply by means of a commutator. The outputs of the control pulse generator are connected to the commutator and shunting device, which is connected to the commutator and to the auxiliary power supply.

1/1

1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--A COMPOSITION FOR PROVIDING A FOUNDATION FOR ELECTROVACUUM ARTICLES
-U-

AUTHOR--(04)--MASLOV, N.I., PETROV, G.N., RAPPOPORT, L.YA., KOGAN, F.S.

COUNTRY OF INFO--USSR

SOURCE--USSR 264,960

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ELECTROVACUUM, PATENT, ADHESION, BUTADIENE, ISOPRENE, ORGANIC
ISOCYANATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3002/1456

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128855

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 014

CIRC ACCESSION NO--AA0128855

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A COMPN. FOR INCREASING THE

ADHERENCE OF ELECTROVACUUM ARTICLES, E. G., ELEC. LAMPS, TO THEIR

FOUNDATION IN CONDITIONS OF INCREASED MOISTURE HAS THE FOLLOWING

RELATION OF COMPONENTS (IN WT. PARTS). DIVINYL POLYMER WITH ISOPRENE

10-11, TOLYLENE DIISOCYANATE 1-1.1, EPICHLOROHYDRIN 0.29-0.31,

DIMETHYLBENZYLAMINE 0.21-0.23, AND POWD. MARBLE 28-36.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--STYRENE COPOLYMERS -U-
AUTHOR--(05)--PETROV, G.N., RAPPORT, L.YA., SAVINSKIY, P.A., MONAKHOVA,
L.A., MOLOTKOV, R.V.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 263,877
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--10FEB70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--STYRENE, COPOLYMER, POLYMER CROSSLINKING, ACRYLATE, ETHYL
CARBAMATE, CHEMICAL PATENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1995/1082 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0116548
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AA0116548

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COPOLYMERS ARE PREPD. BY
COPOLYMG. STYRENE WITH A CROSSLINKING AGENT (POLYDIENE URETHANE
DIACRYLATE) IN THE PRESENCE OF A HARDENER.

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--CLINICAL PICTURE AND PATHOMORPHOLOGY OF CERVICAL VEGETATIVE
GANGLIONITIS IN VIBRATION SICKNESS -U-
AUTHOR-(04)-MODEL, A.A., RAPORPORT, M.B., TIMOFEYEVA, N.T., PASTERNAK,
G.A.
COUNTRY OF INFO--USSR
SOURCE--KLINICHESKAYA MEDITSINA, 1970, NR 3, PP 74-78
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BIOLOGIC VIBRATION EFFECT, GANGLION, RAT, MORPHOLOGY, SPINAL
CORD, SPINAL NERVE, CENTRAL NERVOUS SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/1742

STEP NO--UR/0497/70/000/003/0074/0078

CIRC ACCESSION NO--AP0136983

UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136983

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AS A RESULT OF OBSERVATION OF 29 PATIENTS SUFFERING FROM VIBRATION SICKNESS, THE CLINICAL SYMPTOMS OF AFFECTION OF THE CERVICAL SYMPATHETIC GANGLION WERE ANALYZED. IN A NUMBER OF CASES THE AFFECTION OF CERVICAL VEGETATIVE FORMATIONS WERE ACCOMPANIED BY DEGENERATIVE AND DYSTROPHIC CHANGES OF THE SPINE. THE AUTHORS CARRIED OUT HISTOLOGICAL INVESTIGATIONS OF CERVICAL VEGETATIVE GANGLIA USING RATS SUBJECTED TO INTERMITTENT OVERALL VIBRATION FOR THREE HOURS DAILY DURING A PERIOD OF THREE MONTHS. MORPHOLOGICAL CHANGES OF PRE AND POST GANGLIONIC FIBERS WERE FOUND, AS WELL AS CHANGES OF NERVE CELLS OF SYMPATHETIC GANGLIA. IT IS BELIEVED THAT IN THE DEVELOPMENTAL MECHANISM OF CERVICAL VEGETATIVE GANGLIONITIS OF VIBRATION ETIOLOGY, AN IMPORTANT ROLE IS PLAYED BY PATHOLOGICAL IMPULSION FROM THE PERIPHERY AS WELL AS BY DISTURBANCES OF THE CENTRAL NERVOUS SYSTEM. IT IS ASSUMED THAT THE CHANGES OF THE SPINE ARE OF SECONDARY NATURE CAUSED BY THE AFFECTION OF THE CERVICAL SYMPATHETIC GANGLION. FACO;OTU"
KIYEVSKIY NAUCHNO-ISSLEDOVATELSKIY INSTITUT GIGIYENY TRUDA I
PROFESSIONAL'NYKH ZABOLEVANIY.

UNCLASSIFIED

USSR

UDC 577.1:615.7/9

PAUSTOVSKAYA, V. V., RAPPOPORT, M. B., GOLENKO, V. S.

"Data on the Toxicological Evaluation of the Hexahydrodimethyl Ester of Terephthalic Acid"

Farmakol. i toksikologiya. Resp. mezhved. sb. (Pharmacology and Toxicology. Republic Interdepartmental Collection of Works), 1970, No 5, pp 154-157 (from RZh-Biologicheskaya Khimiya, No 19, 10 Oct 70, Abstract No 19 F1794 by A. Ignat'yev)

Translation: This substance has low toxicity and when injected into white rats and mice (1/5-1/10 LD₅₀) it produces only a tendency for total blood protein, including the albumin fractions, to decrease with a slight increase in the amount of globulin fractions. Some changes occur in the higher divisions of the animals' central nervous system.

1/1

1/2 031 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--TOXICOLOGICAL CHARACTERISTICS AND MORPHOLOGICAL CHANGES IN ANIMALS
UNDER THE EFFECT OF PHENOXYPHENOL AND MONOMETHYL ETHER OF RESORCIN -U-
AUTHOR--(02)-KUZMENKO, N.M., RAPPOPORT, M.B. *R*

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 4, PP 151-155

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BENZENE DERIVATIVE, ETHER, RESORCINOL, SKIN PHYSIOLOGY,
ABSORPTION, KIDNEY FUNCTION, LIVER FUNCTION, NERVOUS SYSTEM, TOXICITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3002/1691

STEP NO--UR/0475/70/000/004/0151/0155

CIRC ACCESSION NO--AP0129061

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129061

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHENOXYPHENOL (PP) AND MONOMETHYL
ETHER OF RESORCIN (MER) APPLIED TO THE SKIN AND MUCOSA EXERT A LOCAL AND
RESCRIPTIVE EFFECT AND AFFECT RENAL, HERATIC AND NERVOUS FUNCTION. PP
AND MER LEAD TO HEMODYNAMIC AND DYSTROPHIC CHANGES MAINLY IN THE LIVER,
KIDNEYS AND LUNGS, THEIR CHRONIC EFFECT ALSO LEADING TO STRUCTURAL
CHANGES CHARACTERISTIC OF NEPHROSO NEPHRITIS AND PROTEIN FATTY LIVER
DYSTROPHY. THE CHANGES WERE MORE MARKED WITH PP, EVIDENCING ITS
CUMULATIVE PROPERTIES. FACILITY: VSESOUZNYI NAUCHNO
ISSLEDGVA TEL'SKIY INSTITUT GIGIYENY I TOKSIKOLOGII PESTITSIDOV,
POLIMERNYKH I PLASTICHESKIKH MASS KIYEVSKIY NAUCH-ISSLED. INSTITUT
GIGIYENY TRUDA I PROFZABOLEVANIY.

UNCLASSIFIED

USSR

R
UDC: 616.839.19-002-02:613.644

MODEL', A.A., RAPOPORT, M.B., TIMOFEYEVA, N.T., and PASTERNAK, G.A., Kiev
Scientific Research Institute of Labor Hygiene and Occupational Diseases

"The Clinical Picture and Pathomorphology of Cervical Autonomic Ganglionitis
in Vibration Sickness"

Moscow, Klinicheskaya Meditsina, No 3, 1970, pp 74-78

Abstract: Clinical symptoms of cervical autonomic ganglionitis in patients exposed to local and/or general whole body vibration consisted of headache, eye and ear disturbances, and disturbances of the central nervous system. In a number of cases disturbances of cervical autonomic structures were concurrent with degenerative and dystrophic changes in the spine. Histological studies were conducted in animals subjected to whole-body vibration, pathological changes were found in pre- and post-ganglionic fibers, and in the cells of the sympathetic ganglia. The dominant factor in the etiology of ganglionitis may be pathological impulses from the peripheral nerves and disturbances of the central nervous system. Changes in the spine are of secondary nature and are apparently due to affection of the cervical sympathetic ganglia.

1/1

Cytology

USSR

UDC 615.361.018.46:612.419-085.23

KORENEVSKAYA, M. I., ~~RAPOPORT, R. I.~~, (Deceased) and TERENT'YEVA, E. I.,
Cytology Laboratory, Central Institute of Hematology and Blood Transfusion,
Ministry of Health USSR, and Diploid Cell Laboratory, Institute of Virus
Preparations, Ministry of Health USSR, Moscow

"Culturing Monkey Bone Marrow in Synthetic Media With Organic Supplements
(Deep Cultures)"

Moscow, Laboratornoye Delo, No 8, 1970, pp 466-469

Abstract: Bone marrow scraped from the epiphyses of the femoral and humeral
bones of monkeys was cultured in Eagle's medium or medium 199 with various
concentrations of bovine serum and lactalbumin hydrolysate added. Fresh
medium, serum, and lactalbumin hydrolysate were replaced every 2 to 5 days.
Macrophages, polyblasts, and fibroblast-like cells appeared on the glass
within 24 hours and constituted 29.2% of all cells in the culture after 72
hours. Of the phagocytizing cells observed on the 3rd day after explantation,
49% were polyblast-macrophages, 1% myelocytes, 2% metamyelocytes, 19% stab
neutrophils, and 29% segmentonuclear neutrophils. Enrichment of the syn-
thetic medium with organic supplements (bovine serum and lactalbumin hydro-
lysate) promoted cell growth and adherence without affecting differentiation.
1/1

1/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--MULTIPLICATION OF COXSACKIE GROUP A VIRUSES IN HUMAN EMBRYO LUNG
DIPLOID CELLS -U-
AUTHOR--(03)-ECKINA, G.I., ZUBOVA, Z.F., RAPOPORT, R.I.
COUNTRY OF INFO--USSR
SOURCE--VOBKOSY VIRUSOLOGII, 1970, NR 3, PP 346-350
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--COXSACKIE VIRUS, LUNG, TISSUE CULTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/0582 STEP NO--UR/0402/70/000/003/0346/0350
CIRC ACCESSION NO--AP0126321
UNCLASSIFIED

2/2 022

CIRC ACCESSION NO--AP0126321
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--20NOV70

ABSTRACT. THE PATTERN OF MULTIPLICATION AND THE DYNAMICS OF ACCUMULATION IN CELLS AND CULTURE FLUID OF COXSACKIE GROUP A VIRUSES (TYPES 13, 18, 20, 21) WERE STUDIED IN HUMAN EMBRYO LUNG DIPLOID CELLS. THE DYNAMICS OF ACCUMULATION OF DIFFERENT TYPES OF COXSACKIE A VIRUSES WAS FOUND TO BE NO DIFFERENT. THE INCREASE OF VIRUS IN CELLS AND THE CULTURE FLUID WAS PARALLEL UP TO THE MOMENT OF DEGENERATION OF OVER 50PERCENT OF CELLS AFTER WHICH TIME THE TITER OF THE CELLULAR VIRUS DROPPED AND THAT OF THE CULTURE FLUID PERSISTED. THE LATTER APPEARED TO BE DUE TO TRANSITION OF INTRACELLULAR VIRUS INTO THE MEDIUM WHEN THE MAJORITY OF THE CELLS WERE DESTROYED. THE TIME OF MAXIMUM INCREASE OF VIRUS IN CELLS AND THE TIME OF DEGENERATION WERE INVERSELY RELATED TO THE SIZE OF THE INFECTING DOSE AND DID NOT DEPEND UPON THE VIRUS TYPE. COXSACKIE A 21 VIRUS, KUYKENDALL STRAIN AT A HIGH MULTIPLICITY OF INFECTION WAS FOUND TO PENETRATE INTO THE CELL IN 15 MIN. BUT COULD NOT BE DETECTED IN 2 HOURS. NEWLY SYNTHESIZED VIRUS APPEARED IN THE CELLS IN 3-4 HOURS. THE VIRUS REACHED MAXIMUM TITER IN THE CELLS 8 HOURS AFTER INOCULATION, AND IN THE CULTURE FLUID 3 HOURS LATER. BY 11 HOURS AFTER INOCULATION THE TOTAL AMOUNT OF VIRUS REACHED MAXIMUM TITER. THE AMOUNT OF INTRACELLULAR VIRUS THROUGHOUT THE OBSERVATION PERIOD EXCEEDED THAT IN THE CULTURE FLUID. FACILITY: MOSKOVSKIY NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT VIRUSNYKH PREPARATOV.

UNCLASSIFIED

1/2 027

UNCLASSIFIED

PROCESSING DATE--300CT70

TITLE--THE PROBLEM CONCERNED WITH THE TIMELY DIAGNOSIS OF CANCER OF THE STOMACH -U-

AUTHOR--(05)--VASILENKO, V.KH., SOKOLOV, L.K., RAPOPORT, S.I., TSODIKOV, G.V., SMOLSKIY, B.G.
COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 3, PP 9-20

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIGESTIVE SYSTEM DISEASE, CANCER, RADIOGRAPHY, BIOPSY, DIAGNOSTIC MEDICINE, STOMACH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3001/0915

STEP NO--UR/0497/70/048/003/0009/0020

CIRC ACCESSION NO--AP0126574

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--300CT70

CIRC ACCESSION NO--AP0126574

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. COMPLEX EXAMINATION

(ROENTGENOLOGICAL, GASTROSCOPY, AIMED GASTROBIOPSY AND CYTOLOGY) PERFORMED IN 475 PATIENTS SUFFERING FROM GASTRIC DISEASES PREOPERATIVELY REVEALED CANCER IN 62 OUT OF 65 CASES. THE AUTHORS REPORT ON 12 CASES OF EARLY PREOPERATIVE RECOGNITION OF CANCER OF THE STOMACH THANKS TO THE USE OF AIMED GASTROBIOPSY AND CYTOLOGY. IT IS DEEMED EXPEDIENT TO INTRODUCE NEW PRINCIPLES IN THE APPROACH TO THE PROBLEM OF RECOGNITION OF EARLY CANCER, IN WHICH DECISIVE SHOULD BE BIOPSY INVESTIGATION OBTAINED DURING AIMED GASTROSCOPY; HOWEVER AT THE SAME TIME CLINICAL DATA IN THE DIAGNOSIS OF EARLY CANCER ARE RARELY PRACTICAL. FACILITY: VSESOUZNIY NAUCHNO-ISSLED. INSTITUT GASTROENTEROLOGII, MINISTERSTVA ZDRAVOOKHRANENIYA, SSSR, MOSKVA.

UNCLASSIFIED

U14
TITLE--AGING OF BARIUM TITANATE -U- UNCLASSIFIED
AUTHOR--(02)--RAPOPORT, S.L., DONTSOVA, L.I. PROCESSING DATE--30OCT70
COUNTRY OF INFO--USSR
SOURCE--KRISTALLOGRAFIYA 1970, 15(2), 384-6
DATE PUBLISHED--70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--BARIUM TITANATE, SINGLE CRYSTAL, CRYSTAL AGING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1567
CIRC ACCESSION NO--AP0125193
STEP NO--UR/0070/70/015/002/0384/0386
UNCLASSIFIED

2/2 014

CIRC ACCESSION NO--AP0125193

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE NATURE OF CHANGES IN
180DEGREES C DOMAINS IN BATIO SUB3 SINGLE CRYSTALS ETCHED WITH 4PERCENT
HCL AND HF SOLNS. WAS INVESTIGATED. IN THE AGING PROCESS, THE WIDTH OF
180DEGREES C DOMAINS INCREASES, WHEREAS THE AMT. OF "DOMAIN", WALLS AND
THEIR TOTAL SURFACE DECREASE CORRESPONDINGLY, ACCORDING TO THE
LOGARITHMIC DEPENDENCE OF THE CHANGE OF DIELEC. CONST. (EPSILON) WITH
TIME. THE ANAL. OF THIS PHENOMENON PERMITS ASSUMING THAT THE DECREASE
IN EPSILON DURING BATIO SUB3 AGING IS CAUSED BY 3 FACTORS: REDN. IN THE
DOMAIN WALL SURFACE, DECREASING MOBILITY OF DOMAIN WALLS, AND INCREASE
IN THE FRACTION OF THE VOL. OF THE CRYSTAL OCCUPIED BY C DOMAINS.
FACILITY: VOLGOGRAD. PEDAGOG. INST., VOLGOGRAD, USSR.

UNCLASSIFIED

USSR

UDC 621.371.029.4

LIKHTER, Ya. I., MOLCHANOV, O. A., CHMYREV, V. M., RAPOPORT, V. O.,
TRAKHTENGERTS, V. Yu., and CHERNOVITSKIY, V. A.

"Propagation of Signals of a Very Low Frequency Transmitter in the
Outer Ionosphere"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl.
Sekt. 3 (Tenth All-Union Conference on the Propagation of Radio
Waves; Report Theses; Section 3--collection of works) "Nauka," 1972
pp 134-136 (from RZh--Radiotekhnika, No 10, 1972, Abstract No
10A374)

Translation: Results are given of experiments investigating the
propagation of very low frequency signals in the outer ionosphere.
The signals of a transmitter radiating pulses of 400 and 800 msec
at a frequency of 15 kHz with a repetition period of three seconds
were used. Reception was made at a point magnetically adjacent to
the transmitter, using two ship stations, one of which could have
left the point for a distance of 3000 km. N. S.

1/1

ACC. NR:

100048357

Abstracting Service:

INTERNAT. AEROSPACE ABST

Ref. Code:

5-70 210141

A70-25165

Method of receiving pulsar radio emission

(K metodike priema radioizlucheniia pul'sarov). V. A. Zinichev and
V. O. Rapoport (Gor'kovskii Gosudarstvennyi Universitet, Gorki,
USSR). Radiofizika, vol. 13, no. 2, 1970, p. 299, 300. 7 refs. In
Russian.

IZVVUZ

Description of a method for receiving pulsar radio emission which features a five to tenfold improvement in the SNR for most known pulsar sources. Previous studies showed that the reception of pulsar emission on two close fixed frequencies provides two pulse sequences which are shifted in time with respect to each other. The proposed method is based on periodic (with the pulse repetition period of the pulsar sequence) variation of the average reception frequency with time in such a way as to ensure the reception of each individual pulsar pulse throughout the entire pulse repetition period; in other words, continuous reception is achieved.

T.M.

REEL/FRAME
19800064

12

RAPPORT, Ya. L.

CURRENT PROBLEMS DEALING WITH HEART TRANSPLANTATION

JPRS 55569
29 May 72
UDC: 616.12-089.843

[Article by V.I. Kurakovsky, Ya.L. Rapoport, N.A. Prolova, G.E. Pavlovskiy, Institute of Cardiac and Vascular Surgery, Acad. A.N. Sechenov, USSR Academy of Medical Sciences, Moscow; Moscow, Voenik Akademii Meditsinskikh Nauk, 5556, Russian, No 2, 1972, pp 77-85]

Heart transplantation, a method of treating patients with advanced cardiac pathology that does not respond to any of the presently known therapeutic and surgical methods, is experiencing a critical period.

Today, much depends on whether modern science will be able to catch up to the flight of surgical fantasy or whether the mysticism of tissue incompatibility will bury it in oblivion without making any age-long dream come true.

The ethical aspects confronting scientists are quite vast, but they do not determine the present status of the problem. At the present time in most countries of the world appropriate laws have been issued dealing with the legal aspects of this operation. The question of whether or not to perform a heart transplant, which is strictly a theoretical one for sociologists and demographers, becomes a purely practical one for not involving a concrete patient who is dying before the eyes of a team of experienced cardiothoracic surgeons.

The visible coolness toward the operation on the part of the vast majority of surgeons is not due to a question of principles, but rather because theoretical aspects of transplantation have not been worked out sufficiently. After performing several more or less successful operations and becoming convinced of the feasibility of the surgical technique, most leading cardiothoracic surgeons have returned to experimentation and have undertaken the complex investigation of the chief issues in transplantology.

Tables 1, 2, and 3 submit data on heart transplants performed (Bergan, 1970) as of March 1971.

Organ and Tissue Transplantation

USSR

UDC 616.12-089.843-089.168-07:616.12-008.9-097.5

RAPOPORT, Ya. L., FAL'KOVSKIY, G. E., and GALANKINA, I. Ye., Institute of Cardiovascular Surgery imeni A. N. Bakulev, Academy of Medical Sciences USSR

"Immunomorphology and Pathology of Allotransplanted Heart (Without Immuno-depressive Effect)"

Moscow, Arkhiv Patologii, No 4, 1971, pp 43-49

Abstract: Morphological and histochemical changes in the lymphatic system and allotransplanted heart of dogs 1 to 12 days after the operation without the use of immunodepressive agents were studied. Morphological changes appeared in the lymph nodes and spleen before signs of rejection in the transplant. The changes were characteristic of active antigenic irritation - hyperplasia of the follicles and plasma cell and macrophage reactions. Rejection of the transplant was indicated by alterations in the blood vessels and impairment of permeability, infiltration of interstitial spaces with lymphoid and plasma cells (typical of the delayed type of hypersensitivity), disturbance of muscle fiber metabolism characteristic of myocardial hypoxia (disappearance of glycogen, decreased content of succinate dehydrogenase, denaturation of contractile proteins) and ultimate destruction of the fibers. All these processes associated with rejection of allotransplanted heart constitute a syndrome that might be called "transplantation myocarditis."

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Organ and Tissue Transplantation

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UDC 616.12-089:843.06

RAPOPORT, Ya. L., Institute of Cardiovascular Surgery imeni A. N. Bakulev,
Academy of Medical Sciences USSR

"Some Aspects of the Pathology of Heart Transplants. Pathology of Integration"

Moscow, Kardiologiya, No 10, 1971, pp 17-26

Abstract: Two pathological processes take place in the recipient of an allogenic heart transplant. One is the immunological reaction of rejection of the foreign organ, the aggregate of phenomena that the author calls "transplantation myocarditis" (changes in the blood vessels and resulting impairment of permeability, infiltration of interstitial tissue of the myocardium with cellular elements characteristic of the delayed type of allergy, metabolic disorders in the myocardium). The other process is integration of the heart transplant and its subsequent incorporation into the general "cycle of disease" of the recipient, i.e., "pathology of integration" (coronary atherosclerosis, necrosis, and other conditions prevailing at the time of the operation). Like any other repair operation in cardiovascular surgery, a heart transplant cannot overcome the underlying diseases as a whole, it can only eliminate severe local symptoms, especially those

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RAPOPORT, Ya. L., Kardiologiya, No 10, 1971, pp 17-26

that immediately threaten the patient's life. The analysis of the pathology of integration is based largely on the Philip Blaiberg case, pertinent details of which were supplied in personal communications to the author by Dr. Barnard and I. G. Thomson (who described the autopsy findings).

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Acc. Nr.: AP0042380

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Ref. Code: UR0203

JPRS 50162

Variability of Auroral Absorption at Loparskaya and College

(Abstract: "Comparison of the Variability of Auroral Absorption of Radio Waves in the Ionosphere at Loparskaya and College," by Z. Ts. Rapoport, Polar Geophysical Institute, Kola Affiliate Academy of Sciences USSR, Moscow, Geomagnetizm i Aeronomiya, Vol X, No 1, 1970, pp 77-83)

This paper gives a comparison of the probability of appearance and nature of the change in auroral absorption of radio waves in the ionosphere at Loparskaya and College, situated at approximately the same geomagnetic latitude but about 180° spaced in longitude. At Loparskaya observations were made at 32 Mc/sec whereas at College observations were at 30 Mc/sec. The antennas at the two stations were directed to different points of the sky and received radiation with different polarization. The riometer antennas at the two stations have approximately the same directional diagram width but are directed to the zenith at College and at the Pole Star at Loparskaya. In the last analysis, experimental data on ionospheric radio wave absorption obtained at College and Loparskaya are comparable. The period from November 1964 through July 1965 was analyzed. The diurnal variation of auroral absorption changes from season to season. At College there are two maxima in the diurnal variation: one at 1300-1500 and another

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near midnight; the latter decreases somewhat from winter to spring for weak absorption and increases for strong absorption. The afternoon maximum increases considerably toward spring. A minimum is observed at 0600-0800. In summer the midday maximum decreases somewhat but the near-midnight maximum increases greatly. The probability of appearance of auroral absorption with $f > 1$ db in the interval from 0100 to 0200 attains 14 percent in summer, whereas in spring this probability is 7 percent and in winter ~ 4 percent. The probability of appearance of absorption with $f > 3$ db is maximum in the afternoon hours at the equinox. In winter absorption with $f \geq 3$ db appears more rarely. At Loparskaya in the diurnal variation $W(f > 1 \text{ db})$ there are also two main maxima, the time of whose occurrence varies from season to season. In winter one of the maxima is observed near midnight and the other at 1000-1100; at the equinox one maximum is at 1000-1200 and the other is at 1900-2100; in summer one maximum is at 0400-0800 and the other near midnight. Thus, the diurnal changes in the probability of appearance of auroral absorption at College and Loparskaya are different in nature and in geomagnetic time. However, for both stations there is a minimum at 1800-2100 hours and a near-midnight maximum which in most cases is displaced to the post-midnight hours. The probability of appearance of auroral absorption at College in some cases is greater than at Loparskaya. The probabilities of appearance of auroral absorption at the two stations differ little, but during spring the probability is considerably greater at College than at Loparskaya.

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Organophosphorus Compounds

USSR

UDC 547.26.118

RAPP, L. B., and PROTSENKO, L. D., Kiyev Scientific Research Institute of
Pharmacology and Toxicology

"Heterocyclic Derivatives of Di(2-chloroethyl)amidophosphoric Acid Aryl
Esters"

Kiyev, Ukrainskii Khimicheskii Zhurnal, Vol 39, No 3, Mar 73, pp 273-277

Abstract: The heterocyclic derivatives of di(2-chloroethyl)amidophosphoric acid aryl esters of the general formula $R(XC_6H_4O)P(O)N(CH_2CH_2Cl)_2$ where R = piperidyl, morpholyl, 2-aminopyridyl, 2-amino-4-methylazolyl, amino-p-benzenesulfo-2-aminothiazolyl and X = H, o-CH₃O, o,p-F were synthesized. The compounds were obtained by reacting di(2-chloroethyl)amidophosphoric acid dichloride with phenol followed by reaction with a heterocyclic base in presence of triethylamine.

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USSR

UDC: 615.277.3.011.5

KUZ'MENKO, I. I., RAPP, L. B., Kiev Scientific Research Institute of Pharmacology and Toxicology

"The Hydrolytic Cleavage of the Diphenyl Ester of Di-(2-chloroethyl)amidophosphoric Acid"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 5, May 1971, pp 7-10

Abstract: The diphenyl ester of di-(2-chloroethyl)amidophosphoric acid $(C_6H_5O)_2P(O)N(CH_2CH_2Cl)_2$ was subjected to hydrolysis at pH 8.3 in a sodium bicarbonate solution and at pH 4.95 in a citric acid buffer. The reactions were followed by paper chromatography and a quantitative measurement of released chloride. The products were subjected to elemental analysis and compared directly to pure compounds of known composition. In the former reaction, they were concluded to be (1) the sodium salt of the diphenyl ester of phosphoric acid $(C_6H_5O)_2P(O)ONa$, (2) 2-chloroethyl-2-ethanolamine $HN(CH_2CH_2Cl)CH_2-CH_2OH$. And in the latter reaction, a single product, the 2-chloroethyl-2-ethanolamine salt of the diphenylester of phosphoric acid $(C_6H_5O)_2P(O)O^-H_2N(CH_2CH_2Cl)CH_2CH_2OH$ was isolated.

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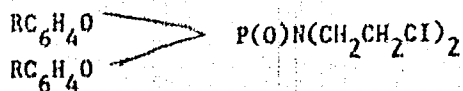
UDC 615.277.3.011.5:542.398

KUZ'MENKO, I. I., and RAPP, L. B., Kiev Scientific Research Institute of Pharmacology and Toxicology

"Hydrolysis of Certain Diaryl Esters of Di-(2-chloroethyl)-amidophosphoric Acid in Acidic and Alkaline Media"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 4, No 7, 1970, pp 14-16

Abstract: A study was made of hydrolysis in alkaline medium of diaryl esters of di-(2-chloroethyl) of amidophosphoric acid with the same or different aryl moieties (I-IV):



I: R = R' = H

II: R = H; R' = o-CH₃

III: R = H; R' = o-CH₃O

IV: R = R' = m-CH₃O

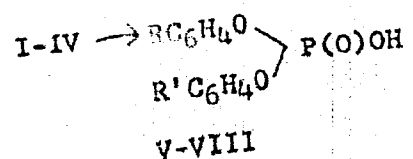
Hydrolysis proceeded in 1 N sodium hydroxide solution at room temperature for 4 hours. In attempting to hydrolyze the synthesized

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KUZ'MENKO, I. I., et al., Khimiko-Farmatsevticheskiy Zhurnal,
Vol 4, No 7, 1970, pp 14-16

phosphorylated chloroethylamines (I-IV), the authors observed cleavage of the amidic bond with formation of diaryl esters of phosphoric acid (V-VIII) in the form of their sodium salts instead of the anticipated hydrolysis of ester bonds. Free compounds V-VIII were separated upon passage of hydrogen chloride in its sodium salt suspension in benzene:



172 012
UNCLASSIFIED
TITLE--INFLUENCE OF AROMATIC RINGS AND THEIR SUBSTITUENTS ON THE MUTAGENIC
ACTIVITY OF NITROGEN MUSTARDS -U-
AUTHOR--(04)-KOVALENKO, S.P., SHISHKIN, G.V., PANCHENKO, V.K., RAPP, L.B.
COUNTRY OF INFO--USSR
SOURCE--GENETIKA 1970, 6(2), 103-9
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--NITROGEN MUSTARD, MUTAGEN, ASPERGILLUS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/0597
CIRC ACCESSION NO--AP0122718
STEP NO--UR/0473/70/006/002/0103/0109
UNCLASSIFIED



2/2 012
 CIRC ACCESSION NO--AP0122718 UNCLASSIFIED
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MUTAGENIC ACTIVITY OF THE
 FOLLOWING N MUSTARD DERIVS. WAS TESTED BY THE REVERSE MUTATION METHOD IN
 AN ARGININE REQUIRING STRAIN OF ASPERGILLUS NIDULANS: RNICH SUB2 CH SUB2
 X) SUB2 .HX (I) AND P,R PRIME C SUB6 H SUB4 NICH SUB2 CH SUB2 CL) SUB2.
 HCL (III), WHERE R EQUALS BENZYL, PH, OR 5,MEC SUB6 H SUB4, X EQUALS CL
 OR BR, R PRIME EQUALS ME, F, CL, BR, OR I. THE MUTAGENIC ACTIVITY OF
 THE COMPS. WAS COMPARED WITH THAT OF ETHYLENIMINE (EI) AND
 TRICHLOROETHYLAMINE (TCE). THE MOST ACTIVE MUTAGEN OF THE I DERIVS. WAS
 BIS(2,BROMOMETHYL) BENZYLAMINE, FOLLOWED BY
 BIS(2,BROMOETHYL),5,METHYLPHENYLAMINE, BIS(2,CHLOROETHYL) BENZYLAMINE
 AND BIS(2,BROMOETHYL)PHENYLAMINE (IN DECREASING ORDER). ALL 4 WERE MORE
 ACTIVE THAN EI OR TCE; THE REMAINING 2 CL DERIVS. WERE MORE ACTIVE THAN
 TCE ONLY. SUBSTITUTION OF THE ME OF II BY HALOGENS DECREASED THE
 MUTAGENIC ACTIVITY IN DIRECT RELATION TO THE AT. WT. OF THE SUBSTITUENT.
 FACILITY: DIV. MOL. BIOL. GENET., AKAD. SCI. UKR. SSR, KIEV,
 USSR.

UNCLASSIFIED

USSR

UDC 547.26.118

FAPP, L. B., PROTSSENKO, L. D., and KUZ'MENKO, I. L., Kiev Scientific Research Institute of Pharmacology and Toxicology, Kiev

"Synthesis of Alkyl-Aryl Esters of Di-(2-chloroethyl)amidophosphoric Acid"

Kiev, Ukrainskiy Khimicheskii Zhurnal, Vol 38, No 9, Sep 72, pp 943-945

Abstract: Phosphorylated chloroethylamines containing residues of phenols, which were prepared in earlier work by the authors, had an inhibiting effect on experimental tumors. For this reason, 15 di-(2-chloroethyl)amido-phosphoric acid alkyl-aryl esters (I) were prepared, using the following reactions: $(\text{ClCH}_2\text{CH}_2)_2\text{NP(O)Cl}_2 + \text{RC}_6\text{H}_4\text{OH} (+\text{Et}_3\text{N}) \rightarrow (\text{ClCH}_2\text{CH}_2)_2\text{NP(O)}(\text{OC}_6\text{H}_4\text{R})\text{Oalk (I)}$. The compounds I with Alk = Et, R = H, o-F, p-F, o-Cl, m-Cl, o-Me, p-Me; Alk = Me, R = o-F, o-Cl, H, p-Me; Alk = Pr, R = H; and Alk = Bu, R = H, p-Me, p-F were viscous liquids that were soluble in common organic solvents, but insoluble in water.

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LITVAK, B. G., RAPPOPORT, A. M.

"Some Types of Fully Unimodular Matrices"

Mat. Vopr. Upr. Proiz-vom. [Mathematics Problems of Production Control], No 3, Moscow, 1971, pp 46-54 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V708 by Yu. Finkel'shteyn).

Translation: Earlier works by the authors (RZhMat, 1971, IV447, 2V475) produced a rather broad set of fully unimodular matrices, the rows of which form M-sets (M-matrices). The importance of M-matrices results, in particular, from the fact that they describe a class of problems in linear programming, reducible to transport problems in a grid. The present work, using M-matrices, formulates sufficient conditions for reducibility of problems in linear programming to one of the most effectively solved problems in a grid -- the problem of the maximum flow. Further, certain types of M-matrices are studied and a recognition algorithm for M-matrices is presented. This algorithm requires no more than $m(m-1)/2$ vector comparison operations (where m is the number of limitations -- bilateral inequalities in the linear programming problem studied).

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1/2 016
UNCLASSIFIED
TITLE--COMPOSITION FOR HERMETIZATION -U-
PROCESSING DATE--30OCT70
AUTHOR--(05)-ERLIKH, I.M., GITINA, I.G., PETROV, G.N., RAPPOPORT, L.YA.,
VASILYEVA, I.N.
COUNTRY OF INFO--USSR
SOURCE--USSR 265,344
REFERENCE--DTKRYTIYA, IZOBRET., PROM. OBRATSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--HERMETIC SEAL, POLYGLYCOL, PLASTICIZER, ORGANIC ISOCYANATE,
PATENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1459
STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0128858
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0128858

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPN., WITH ENHANCED
MECH. STABILITY, ELASTICITY, AND ADHESION, IS BASED ON UNSATD.
POLYGLYCOLS OF REGULAR STRUCTURE AND CONTAINS A PLASTICIZER,
POLYISOCYANATES, AND AN ACTIVATING SYSTEM. FACILITY: KALININ, M.
I., POLYTECHNIC INSTITUTE, LENINGRAD.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--STABILITY OF POLYURETHANES -U-
AUTHOR--(05)-ANTIPOVA, V.F., MELAMED, V.I., PETROV, G.N., RAPPOPORT, L.YA.,
KOGAN, F.S.
COUNTRY OF INFO--USSR
SOURCE--PLAST. MASSY 1970, (2), 49-50
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, CHEMISTRY
TOPIC TAGS--POLYURETHANE RESIN, CHEMICAL STABILITY, QUARTERNARY AMMONIUM
SALT, TRIETHYLAMINE, EPICHLORHYDRIN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/0674 STEP NO--UR/0191/70/000/002/0049/0050
CIRC ACCESSION NO--AP0119582
UNCLASSIFIED

2/2 014

CIRC ACCESSION NO--AP0119582
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT. THE EFFECTS OF DONOR ACCEPTOR ADDITIVES, E.G., N,N-DIMETHYLBENZYLAMINE (I) AND PHENYL GLYCIDYL ETHER (II), I AND GLYCIDOL, I AND EPICHLOROHYDRIN (III), AND II AND ET SUB3 N, ON THE AGING RESISTANCE OF CROSSLINKED POLYURETHANES (IV) WERE STUDIED. THE STABILITY OF IV WAS INVERSELY PROPORTIONAL TO THE TOTAL ADDITIVE CONTENT, REACHING A MIN. WHEN BOTH COMPONENTS WERE PRESENT IN AN EQUIMOLAR RATIO. THE STABILITY OF IV INCREASED WHEN III WAS USED, PRESUMABLY DUE TO THE FORMATION OF A STABLE QUATERNARY AMMONIUM COMPD.

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USSR

UDC 612.432-07:615.285.7.015.4-099

RAPPOPORT, M. B., Professor, Kiev Scientific Research Institute of Labor and Hygiene and Occupational Diseases

"Electron Microscope Study of the Posterior Lobe of the Hypophysis After Repeated Exposure to the Pesticide Sevin"

Kiev, Vrachebnoye Delo, No 9, 1971, pp 137-140

Abstract: White mice were injected intraperitoneally once a week for 3 months with 50 mg/kg of the cholinesterase inhibitor sevin. Electron microscope examination of the posterior lobe of the hypophysis, which abounds in cholinergic synapses, revealed morphological changes not detected with a light microscope (except hyperemia). Among the changes were polymorphism of the elementary granules of the neurosecretory fibers, uneven distribution and different electron densities of the granules in the neurosecretory endings, and numerous pinocytotic vesicles in the cytoplasm of the endothelial cells of the capillaries, which transport hormones from the neurosecretory endings to the blood. This is consistent with the view that sevin intensifies secretion from the cells of the neurosecretory nuclei of the anterior hypothalamus into the posterior lobe of the hypophysis and then through the capillaries into the blood.

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USSR

UDC 615.777/.779-092.18/.23-099:632.95

RAPPOPORT, M. B., and MATOKHNYUK, L. A.

"Pathomorphological and Some Biochemical Shifts in the Organism During Intoxication With Manganese Ethylenebis (dithiocarbamate) (Maneb)"

Kiev, Vrachebnoye Delo, No 8, 1971, pp 132-136

Abstract: Structural and some biochemical shifts in the organism after exposure to maneb were investigated. The activity of ceruloplasmin, SH-group content, and pyruvic acid level were determined in cats and rats. Experiments showed that single administration of maneb per os in the maximum permissible dose (1,200 mg/kg of body weight) induces cerebral circulatory disorders in the form of moderate venous plethora, pericellular and perivascular edema. Signs of protein dystrophy were detected in the parenchymatous organs, especially in the liver. When maneb was given several times per os in a dose of 1/10 LD₅₀ (300 mg/kg), the nature and direction of pathomorphological changes in the experimental animals was the same as for the single-administration of this pesticide in the maximum permissible dose. However some organs, for example the brain, showed grosser morphological changes. Upon multiple daily administration for four months of 1/20 LD₅₀ of the agent, similar changes were noted in the organs of experimental animals, though they were weaker and less

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RAPPOPORT, M. B., and MATOKHNYUK, L. A., Vrachebnoye Delo, No 8, 1971, pp 132-136

widespread than after administration of $1/10$ LD₅₀. Intoxication with maneb after a single inhalation exposure (700 mg/m^3) induced pronounced structural changes in the organs of experimental animals. Multiple inhalation exposure to maneb at the threshold concentration (4.7 mg/m^3) for 4 months caused venous congestion and small foci of interstitial tissue proliferation in parenchymatous and endocrine organs.

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USSR

RAPPOPORT, R. M.

UDC 539.3

"Interpolation Solutions of the Theory of Bending of Laminar Plates"

V sb. Raschet prostranstv. konstruktsiy. Vyp. 14 (Calculation of Spatial Structural Elements. Vyp. 14--collection of works), Moscow, Stroyizdat Press, 1971, pp 121-138 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11V176)

Translation: A study was made of a multilayered plate assembled from transversal-isotropic uniform layers of constant thickness the planes of isotropy of which are parallel to the boundaries of the layers. The equations of the bending of the multilayered plate were obtained when analyzing the equilibrium of a prism taken from the layered body. The specific forces and moments are calculated under the assumption that the tangential stresses vary along the thickness of the layer by a linear law. Interpolation solutions of the equations of bending of the plates are constructed on the basis of the general solutions obtained earlier by the author. It is considered that during integration with respect to the transverse coordinate, the interpolation grid permits the application of the formulas of mechanical quadratures (the trapezoid formula). A system of difference equations describing the stated problem is derived. The solutions of the difference equations as applied to plates of regular structure are

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RAPPOPORT, R. M., Raschet prostranstv. konstruktsiy. Vyp. 14, Moscow, Stroyizdat Press, 1971, pp 121-138

investigated. The problem of selecting a uniform model when calculating stratified media is analyzed. Numerical data are presented. It is noted that the results found are intended for evaluating applied theories.

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1/2 014
UNCLASSIFIED
PROCESSING DATE--11DEC70
TITLE--EFFECT OF RESIN CANCER ON THE RESPIRATION INTENSITY AND ACTIVITY OF
PINE OXIDATIVE ENZYMES -U-
AUTHOR--(03)--FEDUROV, N.I., RAPTONOVICH, E.S., VORONKOVA, N.G.
COUNTRY OF INFO--USSR
SOURCE--MIKLL. FITOPATOL. 1970, 4(1), 44-50
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PROCESSED PLANT PRODUCT, FUNGUS, PLANT DISEASE, ENZYME
ACTIVITY, SEASONAL VARIATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PRGX FICHE NO----FD70/605001/E12 STEP NO--UR/9063/70/004/001/0044/0050
CIRC ACCESSION NO--AP0139384
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0139384

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CHANGES IN THE ACTIVITIES OF THE OXIDATIVE ENZYMES AND IN THE RESPIRATION OF PINE TREES INFECTED WITH RESIN CANCER, CAUSED BY THE GROWTH AND DEVELOPMENT OF THE RUST FUNGI CRONARTIUM FLACIDUM AND PERIDERMUM PINI, WERE STUDIED. AN INFECTION WITH THE ABOVE MENTIONED FUNGI INCREASED THE RESPIRATION OF THE PINE NEEDLES, ESP. DURING THE SPRING. DURING THE SUMMER, THE 2 YEAR OLD NEEDLES OF INFECTED PINES HAD A HIGHER RESPIRATION THAN THE NEEDLES OF HEALTHY TREES. THE RESPIRATION OF THE OXIDATIVE ENZYMES IN THE NEEDLES OF INFECTED TREES CHANGED ACCORDINGLY TO THE TIME OF ANAL.

FACILITY: TEKHNOL. INST. IM. KIROVA, MINSK, USSR.

UNCLASSIFIED

Acc. Nr.

AP0041534

Abstracting Service:

CHEMICAL ABST.

4/70

Ref. Code

UR 0366

R
89982d Reaction of arylsulfonyl compounds with an excess of organolithium reagent. III. Synthesis of 2,6-disubstituted alkylbenzenes. Karpenko, R. G.; Stovanovich, F. M.; Raputo, S. P.; Gol'dfarb, Ya. D. (Inst. Org. Khim. im. Zelin-skogo, Moscow, USSR). *Zh. Org. Khim.* 1970, 0(1), 112-16 (Russ). The reaction of 1,2,6-BuLi, C₆H₅ (I) with HCONMe₂, S-Mel mixt., Me₂SO, PhCHO, or Ph₂CO gave resp.: 1,2,6-Bu(OCH)₂C₆H₃, 1,2,6-Bu(MeS)₂C₆H₃ (II), 1,2,6-BuMe₂C₆H₃, 1,2,6-Bu[PhCH(OH)]₂C₆H₃, or 1,2,6-Bu[Ph₂C(OH)]₂C₆H₃. The oxidn. of II with H₂O₂ in AcOH gave 1,2,6-Bu(MeSO₂)₂C₆H₃. The action of BuLi-MeLi mixt. on PhSO₂ Bu-*tert* gave PhMe, PhBu, 1,3,2-(HO₂C)₂MeC₆H₃ (on treatment with CO₂), 1,3,2-(HO₂C)₂BuC₆H₃ (on treatment with CO₂), I, 1,2,6-MeLi₂C₆H₃, and 2-*tert*-BuSO₂C₆H₃CO₂H (on treatment with CO₂). The formation of all these products supports the transient existence of 1,2,6-*tert*-(BuSO₂)Li₂C₆H₃. CPJR

REEL/FRAME

19751402

1/2 032 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--COMPARATIVE STUDY OF THE SUPRAMOLECULAR TRANSITIONS OF POLYETHYLENE
AND POLYCHLOROPRENE FILMS DURING UNIAXIAL STRAIN --U--
AUTHOR--(04)--BARANOV, V.G., BEZIRGANYAN, P.A., GASPARYAN, K.A., RAPYAN,
YU.A.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK ARM. SSR, FIZ. 1970, 5(1), 47-59
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--POLYETHYLENE, POLYCHLOROPRENE, PLASTIC FILM, ELONGATION,
BREAKING STRENGTH, X RAY DIFFRACTION, MATERIAL DEFORMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/0968

STEP NO--UR/0431/70/005/001/0047/0059

CIRC ACCESSION NO--AP0136398

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136398

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HIGH PRESSURE POLYETHYLENE (I) AND POLYCHLOROPRENE (II) FILMS WERE ELONGATED UP TO THE BREAKING POINT AND THEIR STRUCTURAL CHANGES WERE STUDIED BY OPTICAL AND X RAY DIFFRACTION. IN I, REGIONS OF THE REVERSIBLE DEFORMATION (40-50PERCENT ELONGATION), IRREVERSIBLE RECRYSTN. (SMALLER THAN OR EQUAL TO 140PERCENT DEFORMATION), AND THE TRANSITION OF THE SPHERULITES TO FIBRILS (SMALLER THAN OR EQUAL TO 500PERCENT DEFORMATION) WERE OBSD. IN II, THERE ARE 2 TYPES OF DIFFRACTION PATTERNS: 1 CORRESPONDING TO DEFORMATION SMALLER THAN OR EQUAL TO 300PERCENT AND THE OTHER TO 350-800PERCENT DEFORMATION.

FACILITY: EREVAN. GOS. UNIV., EREVAN, USSR.

UNCLASSIFIED

USSR

UDC: 8.74

KATKOV, V. I., RAR, A. F.

"Programming in EPSILON"

Programmirovaniye na Yazyki EPSILON [English version above], Novosibirsk, Nauka Press, 1972, 64 pp (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V533K)

Translation: EPSILON is a language designed for problems involving processing of symbolic information and belongs to the class of machine-oriented languages. This means, in particular, that its creators attempted to consider the peculiarities of the computers for which translators for this language are available as completely as possible. Clearly, it is impossible in practice to consider the peculiarities of all computers simultaneously. Therefore, the description of the language is presented in two stages: at the first level (the standard level), the language is not fully defined--some choice is left in various structures. At the second level--specific representation--the description of the first level is supplemented and refined as applicable to the specific computer on which the EPSILON translator is to run. The basic content of this book consists of a description of the first level of the language. Readers familiar

USSR

Katov, V. L., Rar, A. F., Programirovaniye na Yazyki EPSILON, Novosibirsk, Nauka Press, 1972, 64 pp

with ALGOL will master the language much more rapidly, since EPSILON has a great deal in common with ALGOL. The basic differences are as follows: 1. The language is not suited for description or computational problems. Therefore, it contains only very simple arithmetic expressions and all actions must be performed with non-negative integers. 2. The language does not have the modular structure and localization of variables. Even the bodies of procedures are not modular, and their formal parameters have the sense of global variables. 3. A code mechanism is introduced, allowing the coding of all objects to be fixed, and their classification to be organized. 4. Procedures are divided into two classes according to the method of performance--closed and open. In the former case, the actual parameters are represented only by their value, in the latter case--only by name; then the actual parameters may even be sequences of operators.

2/2

1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--USE OF CERTAIN ACTIVATORS FOR THE DETERMINATION OF TRACE AMOUNTS OF
SILVER BY A KINETIC METHOD -U-
AUTHOR--(02)-YASINSKIYENE, E., RASEVICIUTE, N. *R*
COUNTRY OF INFO--USSR
SOURCE--ZH. ANAL. KHIM 1970, 25(3), 458-60
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--TRACE ANALYSIS, SILVER, CATALYTIC OXIDATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1904 STEP NO--UR/0075/70/025/003/0458/0460
CIRC ACCESSION NO--AP0118866
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118866

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OXIDN. OF CERTAIN AZO DYES BY K SUB2 S SUB2 O SUB8 IS CATALYZED BY AG. THE SENSITIVITY OF THE CATALYTIC OXIDN. OF DIRECT GREEN AT PH 9.0-9.2 INCREASES FROM 1 TIMES 10 PRIME NEGATIVE1 MUG AG-ML WITHOUT AN ACTIVATOR TO 5 TIMES 10 PRIME NEGATIVE4 MUG AG-ML IN THE PRESENCE OF ETHYLENEDIAMINE AND TO 2 TIMES 10 PRIME NEGATIVE4 MUG AG-ML IN THE PRESENCE OF TRIETHYLENETETRAMINE SULFATE. THE METHOD WITH ETHYLENEDIAMINE WAS USED FOR THE DETN. OF THE SOLY. OF AG PLATE IN H SUB2 O. FACILITY: VILNIUS STATE UNIV., VILNIUS, USSR.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--COMPENSATION MECHANISMS OF RESPIRATORY INSUFFICIENCY IN CHRONIC NON
SPECIFIC PULMONARY DISEASES -U-
AUTHOR--RASHAP, B.YA.
COUNTRY OF INFO--USSR
SOURCE--VRACHEBNOYE DELO, 1970, NR 5, PP 95-98
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RESPIRATION, RESPIRATORY SYSTEM DISEASE, LUNG, NERVOUS SYSTEM,
PITUITARY GLAND, ADRENAL GLAND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1736 STEP NO--UR/0475/70/000/005/0095/0098
CIRC ACCESSION NO--AP0129104
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129104

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEGREE OF RESPIRATORY INSUFFICIENCY AND STATE OF GENERAL ADAPTATIVE REACTIONS OF THE ORGANISM HAVE BEEN STUDIED IN 120 PATIENTS WITH PNEUMOCONIOSIS AND DUST INDUCED BRONCHITIS AND IN 65 PATIENTS WITH CHRONIC NON SPECIFIC DISEASES OF THE LUNGS OF NON DUST ETIOLOGY. RESULTS SUGGEST THE EXISTENCE OF CLOSE RELATIONSHIP BETWEEN GENERAL ADAPTATIVE REACTIONS OF THE ORGANISM (FUNCTIONAL STATE OF THE HIGHER NERVOUS ACTIVITY, PITUITARY ADRENAL SYSTEM, VEGETATIVE NERVOUS SYSTEM) AND STATE OF THE FUNCTIONAL SYSTEM OF RESPIRATION IN CHRONIC NON SPECIFIC PULMONARY DISEASES.
FACILITY: UKRAINSKIY TSENTRAL'NYI NAUCHNO-ISSLED. INSTITUT EKSPERTIZY TRUDOSPOSOBNOSTI I ORGANIZATII TRUDA INVALIDOV.

UNCLASSIFIED

RASHBA, E. I.

math.
+ phys.
sciences

THE ELECTRONIC THEORY OF METALS -- BOOK REVIEW

[Book* review by Doctor of Physical and Mathematical Sciences E. I. Rashba; Moscow, Vsesoyuz. Nauchn. Kntk. SSR, Russian, Vol. 41, No. 12, December 1977, pp. 98-101]

The reviewed monograph sums up the results of an important stage in the development of the electronic theory of non-metal, that is, non-conducting, metals, which embraces approximately the last 20 years. During those years a general theory of the thermodynamic and kinetic properties of metals with an arbitrary form of the Fermi surface has been constructed, and by the combined efforts of experimenters and theoreticians a system of procedures has been worked out for determining various parameters of Fermi surfaces. Soviet physicists have made an outstanding contribution to that area of science; the main theoretical results are those of the Khar'kov group, in which the authors of the monograph played a leading role. In the course of the investigations both a general concept, now generally accepted, and the mathematical apparatus of a theory of various phenomena were created. It should be especially emphasized that in doing so new effects were predicted which long ago became effective tools of experimental investigations; from them cyclotron resonance.

The monograph contains a systematic account of the general theory of the electronic properties of metals with an arbitrary form of the Fermi surface, considers the characteristics of electronic surface states, discusses the Fermi surfaces of certain types, and discusses most of the most important ways of measuring Fermi surfaces on the basis of experimental data. Although the book is addressed primarily to theoreticians, it will also be useful to experimenters.

Translated from Russian by I. M. Lifshitz, M. Ya. Asher, and M. I. Khar'kov, Moscow, "Nauka" Publishing House, 1977, 356 pages with ill., 2000 copies, 3 r 24 k.

1/2 024 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--THEORY OF HYPERBOLIC DIAMAGNETIC EXCITONS -U-
AUTHOR--(02)-RASHBA, E.I., EDELSHTEYN, V.M. R
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
NR 4, PP 1428-1442
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--EXCITON, DIAMAGNETISM, CRITICAL POINT, ELECTRON MOBILITY, HOLE
MOBILITY, STRONG MAGNETIC FIELD, COULOMB INTERACTION, HYPERBOLIC
FUNCTION, MAGNETIC FIELD CONFIGURATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/1710 STEP NO--UR/0056/70/058/004/1428/1442
CIRC ACCESSION NO--AP0106448
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0106448

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A THEORY OF DIAMAGNETIC HYPERBOLIC EXCITONS IS DEVELOPED IN WHICH ISOENERGETIC ELECTRON AND HOLE SURFACES NEAR THE CRITICAL POINTS ARE ROTATION HYPERBOLOIDS OR ELLIPSOIDS WITH ARBITRARY AXES RATIOS. THE COMPLETE REGION OF ORIENTATIONS OF THE STRONG MAGNETIC FIELD WITHIN A CONE IS INVESTIGATED: IN THIS REGION THE CLASSICAL ELECTRON AND HOLE MAGNETIC MOTION TRAJECTORIES ARE LOCATED IN THE IMMEDIATE VICINITY OF THE CRITICAL POINT. THE CONDITION FOR COULOMB BINDING OF THE PARTICLES IS DERIVED. IT IS SHOWN THAT DEPENDING ON THE DISPERSION LAW PARAMETERS COULOMB BINDING MAY OCCUR EITHER THROUGHOUT THE CONE OR IN A PART OF IT (ADJACENT TO THE CONE AXIS OR CONE SURFACE) OR IN ENTIRELY BE ABSENT. THE MAIN SPECTRUM PARAMETERS IN THE PRESENCE AND IN THE ABSENCE OF COULOMB BINDING ARE FOUND. THE WIDTH OF THE LEVEL CORRESPONDING TO THE EXCITON GROUND STATE IS CALCULATED AND IT IS SHOWN THAT IT IS SMALL AND DECREASES WITH INCREASE OF THE MAGNETIC FIELD STRENGTH. DIAMAGNETIC HYPERBOLIC EXCITONS SHOULD THEREFORE BE ACCESSIBLE TO EXPERIMENTAL DETECTION. ELECTRO ABSORPTION AND SPATIAL DISPERSION EFFECTS ARE ALSO EVALUATED. FACILITY: INST. TEORETICHESKOY FIZIKI IM. L. D. LANDAU, AN SSSR.

UNCLASSIFIED

USSR

UDC 576.851.48.097:616-006.04

MAYKO, I. I., KAGANS'KA, M. B., RASHBA, O. Ya., SHVAYGER, M. O., MANDRIK, T. P.,
and ZHEREBILO, O. S., Institute of Microbiology and Virology, Academy of
Sciences Ukrainian SSR

"Antitumor Activity of Polysaccharide-Containing Complexes of Escherichia coli"

Kiev, Mikrobiologicheskii Zhurnal, Vol 33, No 5, Sep/Oct 71, pp 548-552

Abstract: The antitumor activity of polysaccharide-containing complexes derived from the alkali-forming mutant KM of E. coli was studied in experiments on mice infected with sarcoma 37, lymphadenoma NK/Ly, lymphoma Ly0-1, Ehrlich's tumor, and sarcoma K-239. The following polysaccharide-containing complexes were used: Boivin's antigen; complex antigen prepared according to O. Westfal; complex antigen prepared according to G. Freeman; "alkali" polysaccharides obtained by heating the bacterial mass with alkali; and exocellular polysaccharides isolated from the culture liquid. The highest activity was exhibited by Boivin's and Westfal's antigens, which inhibited the growth of most of the tumors studied. Toxicity (LD₅₀ in mg/kg) was 130, 525, 2200, 3000, and 1700 for Boivin's antigen, Westfal's antigen, Freeman's antigen, "alkali" polysaccharides, and exocellular polysaccharides, respectively. The monosaccharide composition of the polysaccharide-containing complexes was determined chromatographically (table).

1/1

1/2 026 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SPECIFIC POLYSACCHARIDES OF ALCALIGENES FAECALIS AND ALKALI FORMING
MUTANTS OF ENTEROBACTERIA -U-
AUTHOR-(02)-RASHBA, O.YA., LAUSHNIK, G.M.
COUNTRY OF INFO--USSR
SOURCE--MIKROBIOL. ZH. (KIEV) 1970, 32(2), 163-75
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--POLYSACCHARIDE, ANTIGEN, GLUCOSE, TOXICITY, BIOLOGIC MUTATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605004/D06 STEP NO--UR/0438/70/032/002/0163/0175
CIRC ACCESSION NO---AP0139642
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139642

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THREE POLYSACCHARIDE FRACTIONS, O ANTIGEN, WEAKLY BOUND, AND STRONGLY BOUND, WERE PREPD. FROM 6 STRAINS OF A. FAECALIS AND 6 ALKALI FORMING MUTANTS OF ENTEROBACTERIA. THE FRACTIONS CONTAINED 18-25PERCENT REDUCING SUBSTANCES, 2.5-17.5PERCENT PROTEIN, 0.2-5PERCENT P, AND 1.0-9PERCENT N; NO NUCLEIC ACID WAS FOUND IN THE O ANTIGEN FRACTION. NO MONOSACCHARIDE WAS COMMON FOR POLYSACCHARIDES OF ALL CULTURES AND FRACTIONS. RHAMNOSE, XYLOSE, GALACTOSE, AND GLUCOSE WERE PRESENT MORE OFTEN THAN THE OTHER SUGARS, RIBOSE WAS FOUND VERY SELDOM, AND HEPTOSE WAS PRESENT ONLY IN ONE MUTANT. ALL ALKALI FORMING MUTANT WERE SEROL. RELATED, REGARDLESS OF THE METHOD OF THEIR PREPN. AND INITIAL CULTURE. BOTH THE COMPLETE O ANTIGEN AND THE OTHER TWO FRACTIONS DIFFERED WITH RESPECT TO THEIR ANTIGENIC COMPN. ON THE BASIS OF THEIR TOXICITY, THEY COULD BE ARRANGED IN THE FOLLOWING ORDER: O ANTIGEN LARGER THAN WEAKLY BOUND LARGER THAN STRONGLY BOUND FRACTIONS. ALL THREE POLYSACCHARIDE FRACTIONS APPARENTLY BELONG TO DIFFERENT MORPHOL. UNITS. FACILITY: INST. MIKROBIOL. VIRUSOL., KIEV, USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--PROPERTIES OF THE HYDROGENASE OF NITROGEN FIXING PSEUDOMONAS -U-
AUTHOR--(02)--RASHBA, YE.YA., KOBILVANSKAYA, YE.G.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(31), 706-8
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PSEUDOMONAS, SOIL BACTERIOLOGY, ENZYME, CULTURE METHOD
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1806 STEP NO--UR/0020/70/190/003/0706/0708
CIRC ACCESSION NO--AT0125418
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0125418

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE ENZYME FROM A PSEUDOMONAS CULTURE (P. FLUORESCENS, P. RUBIGINOSA, AS WELL AS AZOTOBACTER CHROOCOCCUM, FUSARIUM FLUORESCENS, AND P. TURCOSA) WAS CHARACTERIZED BY ITS ACTIVITY WITH RESPECT TO TETRAZOLIUM SALTS IN VACUO AND IN H₂ ATM., AS WELL AS MANOMETRICALLY AT PH 6.9. ALL PSEUDOMONAS ORGANISMS HAD HYDROGENASE ACTIVITY, BUT THE TETRAZOLIUM SALT METHOD DETECTED THE ACTIVITY IN ONLY 2 CULTURES OF THESE BACTERIA AS WELL AS A. CHROOCOCCUM. THESE ACTIVITIES WERE LOWER THAN FOUND FOR THE SAME CULTURES IN WHICH H₂ CONSUMPTION WAS ESTD. BY THE METHYLENE BLUE METHOD. H₂ AND TETRAZOLIUM ION ADDN. REDUCED THE H₂ CONSUMPTION FROM ENDOGENOUS SUBSTRATES. THE P. TURCOSA CULTURE CONTAINED A WATER SOLUBLE HYDROGENASE SEPARABLE BY AQ. WASHING. FACILITY: INST. MIKROBIOL. VIRUSOL. IM. ZABOLOTNOGO, KIEV, USSR.

UNCLASSIFIED

Acc. Nr:

AP0048042

Abstracting Service

Ref. Code:

INTERNAT. AEROSPACE ABST 5-70 UR 0051

A70-24262 # High-efficiency second-harmonic conversion of neodymium glass laser emission (Vysokoeffektivnoe preobrazovanie vo vtoruiu garmoniku izlucheniia lazera na neodimovom stikle). V. D. Volosoy and M. I. Rasbolskaya, *Optika i Spektroskopii*, vol. 28, Jan. 1970, p. 105-111, 15 refs. In Russian.

Experimental study of the effect of the spatial structure of the fundamental frequency of a neodymium glass laser on the efficiency of second harmonic generation in a KDP crystal. An optimal optical system for shaping the laser beam is found. It consists of three cylindrical lenses and makes it possible to achieve simultaneously both a reduction in the beam divergence in the principal plane of the crystal and an increase in the radiation density on the crystal. With the aid of this system it is possible to raise the efficiency of second harmonic generation to 65% with an initial laser emission density of about 30 MW/sq cm. On the basis of detailed studies of the angular and temporal characteristics of the harmonic, carried out at various conversion efficiency levels, it is found that even at an efficiency of the order of one per cent a method of calculation based on an approximation of a given field is not applicable to an analysis of such harmonic characteristics as the angular distribution and the emission pulse shape.

A.B.K.

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19791724

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Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 2-10

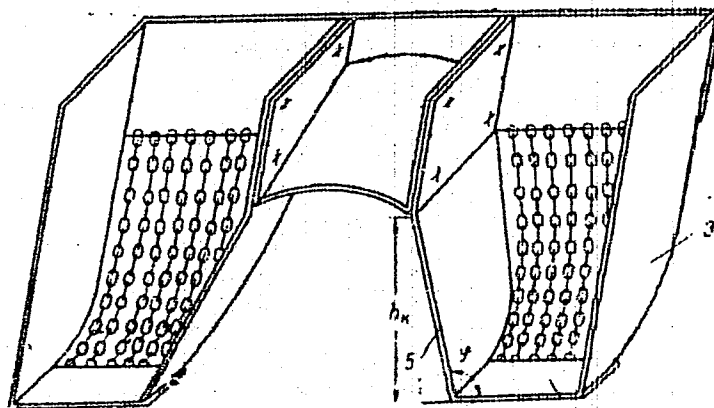
244207 TRENCH EXCAVATOR comprises rotor with buckets. It is distinguished by providing the bucket terminal sections with longitudinal walls 3,5. One of them 3 is made at right angles to the bucket bottom 4, whereas the lower part of the other is made at an angle. This excludes the shock action from the walls of the pipe opening device.

10.2.68. as 1217820/29-14, ODINTSOV, L.A. et al.
(8.10.69) Bul 17/14.5.69. Class 84d, Int. Cl.
E 02f.

1/2 19821472 18

AA0052689

Odintsov, L.A.; Belov, B.F.;
Rashchepkin, K.Ye.; Berdnikova, Z.K.; Bakiyeva, O.Z.



Fig

19821473

NP

023

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--ON THE CLASSIFICATION OF SILICOTUBERCULOSIS -U-

AUTHOR--(05)--MOLOKANOV, K.P., RASHEVSKAYA, A.M., KONCHALOYSKAYA, N.M.,
SENKEVICH, N.A., KALITEYEVSKAYA, T.N.

COUNTRY OF INFO--USSR

SOURCE--GIGIYENA TRUDA I PROFESSIONAL'NYE ZABOLEVANIYA, 1970, NR 4, PP
49-52

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TUBERCULOSIS, SILICA, RADIOGRAPHY, NECROSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1933/1736

CIRC ACCESSION NO--AP0054578

STEP NO--UR/0391/70/000/004/0049/0052

UNCLASSIFIED